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ON THE OPERATIVE TREATMENT OF ENTROPIUM.

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It is necessary to distinguish, at the outset, between two quite different conditions to which the name entropium is equally given, but which, nevertheless, have hardly more than a superficial likeness to each other. The former of these conditions, the so-called *E. spasticum* or *E. spasmodicum* of systematic writers[1], consists in the rolling inward of the entire lid-margin, generally the lower, and is the result of abnormal action of the orbicularis muscle, and notably of those bundles which lie nearest to the ciliary border—the so-called *musculus ciliaris* or *musculus Albini* of certain older writers. With *E. spasticum* may be classed also the *E. senile* of certain authors,[2] in which, besides the abnormal action of the orbicularis muscle, there is also relaxation or redundancy of the lid-integument. The other, and by far the most important type of entropium, is that which has been designated by the name *E. organicum*,[3] in which pathological conditions are present in the tarsal conjunc-

1. Jüngken; Chelius; (acute entropium, Mackenzie; muscular entropium, DeWecker.)

2. Ibid.

3. Ibid. (Chronic entropium, Mackenzie; cicatricial entropium, DeWecker.)

tiva, in the tarsal tissue, and conspicuously in the lid-margin, where the posterior angle is often entirely effaced, even up to the line of the cilia, which thus appear to grow from the thin edge of the deformed eyelid and may be turned singly or in groups against the eyeball—*trichiasis*; in a distinct double row —*distichiasis*; or, in their totality—*entropium totale.*

Trichiasis or distichiasis is almost always met with in conjunction with some degree of entropium,[1] and is, therefore, to be considered rather as a complication of entropium than as a distinct affection.

Excluding cases of traumatic entropium, following wounds of the eyelid or burns of the conjunctiva, entropium, with its attendant trichiasis is generally a result of trachoma, and has, therefore, been appropriately discussed by Arlt in connection with his classical description of that disease.[2] The clinical study of trachoma, in its many phases and in its essentially chronic course, sustains fully the general correctness of Arlt's teachings as regards the part which trachoma plays in the development of organic entropium, namely, that the incurvation of the tarsal tissue, the effacement of the posterior angle of the lid-margin, and the misdirection of the cilia, are due in the main to one common cause, and that this cause is to be sought in the traction exerted upon the marginal tissues of the eyelid, as a result of strong contraction from cicatrization in the diseased conjunctiva and in the subjacent tarsal tissue. The several forms of misdirection of the eyelashes, whether trichiasis, distichiasis, or total entropium, are ordinarily but different phases of the effect produced by the same pathological process, and neither from the therapeutical nor from the etiological point of view do they require to be distinguished as special or separate types.

That there is often an element of spasm superadded to this principal cause of organic entropium is not to be doubted, but

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1. Cf. Scarpa, Cap. IV. Himley, Krankheiten and Missbildungen des menschlichen Auges; I., S. 141. De Wecker, Chirurgie Oculaire, 21me lecon.

2. Krankheiten des Auges, I., S. 128.

the spasm of the orbicularis muscle plays, in most cases, only a secondary part, in maintaining and aggravating the evils which are primarily due to cicatricial contraction in the conjunctiva and tarsal tissue.

These views regarding the origin and causation of entropium and trichiasis are too familiar to admit of any claim to novelty in re-enunciating them; nevertheless, they are not so clearly stated in the text-books as they deserve to be, and through this lack of clear statement confused ideas are still quite prevalent, both with regard to the essential character of the affection and the principles upon which its rational treatment must be based.

The misdirected cilia, although the most conspicuous, are by no means the only source of irritation in entropium. In some cases the inversion of the lid-margin is so complete as to bring a marginal strip of the lid-integument into contact with the globe, and in a very large proportion of cases the posterior angle of the lid-margin is dragged towards and becomes confounded with the general conjunctival surface, so that the mouths of the Meibomian glands appear as if opening upon the conjunctival aspect of the eyelid and discharge their secretion against the eyeball. Both of these factors contribute to the sum of the irritation caused by the disease, and the effacement of the posterior angle of the lid-margin constitutes a very important part of the total deformity.

In the treatment of entropium, the attention is too often directed solely to the cure of its most prominent symptom, namely the trichiasis, and operative methods, almost without number, have been conceived and adopted to this single end. A palliative method, necessarily temporary in the relief which it affords, consists in the pulling out of the offending cilia by means of forceps, a procedure which should be strictly limited to the misdirected eyelashes, and which must be repeated as often as they grow again, generally at intervals of a few days and for a period to be measured only by years or even by the life of the patient. More difficult of execution and even more transient in its effect is the plan of curling the misdirected eye-

lashes,[1] or bending them forward and attaching them to the normal cilia by means of some agglutinative substance.[2] Somewhat more lasting in its effect, but limited at the furthest to the remaining term of life of the eyelash, is the procedure of engaging a misdirected cilium in a loop of fine thread and drawing it by means of a needle through the tissues of the lid-margin so as to bring its point out in line with the normal cilia.[3] (*ἀναβροχίσμος*,—*illaqueatio*). More radical methods of treatment are the excision of a group of eyelashes and their bulbs, included in a bit of the lid-margin in its entire thickness,[4] or contained in a strip of tissue bounded by two parallel incisions made in the lid-margin, the one behind and the other in front of the row of cilia to be removed,[5] the destruction of the hair bulbs by burning their follicles with the hot iron[6] or with the galvanic cautery,[7] the destruction of the hair bulbs by puncturing their follicles and introducing escharotic or irritating substances,[8] the destruction of the hair bulbs with their follicles by galvano-puncture,[9] the formation of an eschar or eschars immediately in front of the misdirected cilia in the hope of drawing them forward into line with the normally directed eyelashes,[10] and the application of a suture in the same situation and for the same purpose.[11] Other methods, more radical than these, and involving the sacrifice of the entire row of of-

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1. Rhases.

2. Paulus Ægineta, Lib. VI. Cap. XIII.

3. Celsus, Lib. VII, Cap. VII; Paul. Ægin. Lib. VI, Cap. XIII.

4. Schreger.

5. Rainy, Vid. Mackenzie, ed. 1854, Chap. III., Sect. XXXIV, 7.

6. Celsus, VII, VII, 8; Paul. Ægin. VI, XIII; Rhases; A. Paré; Carron du Villards De Champesme, et al.

7. Middeldorpf, 1854; Stellwag v. Carion, Lehrbach, 1861.

8. Nitrate of silver; Middlemore, 1835. Tartar emetic; Mackenzie, ed. 1854, after James Hunter.

9. Carron du Villards, 1835.

10. By nitrate of silver, A. Jacob. By caustic potash, Mackenzie. By the Galvanic cautery, Samelsohn.

11. Gaillard, 1844.

fending eyelashes, are the splitting of the lid-margin and abscision of a narrow marginal strip in front of the tarsal tissue, including in it the skin, muscle, and row of cilia with their bulbs,[1] the laying bare of the bulbs of the cilia by an incision through the skin, and excising the bulbs either with[2] or without[3] excising the strip of muscle overlying them, laying bare the row of hair bulbs as above and cauterizing them,[4] excising a narrow strip of tissue parallel to the lid-margin, including skin, muscle and the row of hair bulbs,[5] drawing a seton along the course of the row of hair bulbs and leaving it in situ until they have been destroyed by suppuration,[6] and lastly, and worst of all, the abscision of the lid-margin in its entire thickness[7] or the total destruction of the cilia-bearing tissues by the actual cautery[8] or by deeply-acting caustics.[9]

Several of these methods may be dismissed with the judgment long ago rendered by Beer in the single word *Spielerei*, and certain others must be condemned as involving grave and inexcusable mutilation. Of the great number of methods which have been proposed for excising the cilia singly or in small groups, or for destroying their bulbs by some form of actual or potential cautery applied to their follicles, all are open to the very serious objection that tissue is sacrificed in the thickness of the lid-margin when it can least be spared, and where the subsequent cicatricial contraction tends strongly to the reproduction of the original trouble by drawing other cilia out of line to replace

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1. Flarer, 1829.—An operation identical in effect but less perfectly elaborated had been previously advocated by Fr. Jaeger.

2. Vacca Berlinghieri, 1825.

3. Mackenzie.

4. By nitric acid, Vacca Berlinghieri. By caustic potash, Mackenzie.

5. Pétrequin, 1834.

6. Herzenstein; Archiv für Ophthalmologie, XII, I, 1866.

7. Tolerated, as a last resort, by Heister, 1739, but justly stigmatized by him as "a lamentable method."

8. Celsus, et al.

9. Albucasis, et al.

the misdirected hairs which have been removed or destroyed. Relapses from this cause are in fact the rule, and repetitions of the operation become necessary, resulting finally in a much more extensive destruction of the eyelashes than was intended, and in a correspondingly increased deformity of the lid-margin[1] through the formation of very numerous cicatrices. More rational, but of very limited application, are the several procedures for changing the direction of a single eyelash or small group of eyelashes by establishing a small contracting cicatrix in front of it, and for this purpose the stitch of Gaillard and the galvanic cautery as employed by Samelsohn[2] are perhaps the most convenient and effective agents. For the extirpation of the entire row of eyelashes by a single operation, the method of Vacca Berlinghieri, as originally described or as modified by Pétrequin, is to be preferred to that of Flarer, for the reason that it respects the integrity of the lid-margin, and tends also to the correction of the entropium through the contraction of the resulting cicatrix. Herzenstein's procedure, for destroying the hair bulbs by the suppuration excited by a seton, is much easier of execution, and, as regards the operation itself, is much less painful than the cutting operations: a convenient and useful modification of this method will be described later.

In estimating the value of even the best of the procedures which involve the extensive destruction of the eyelashes, it may be said that, as applied to the upper eyelid, in which the loss of the cilia constitutes the gravest mutilation, other and in all cases far better methods are available. In trichiasis of the lower lid, however, the case is somewhat different, both because

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1. Cf. Beer; Lehre von den Augenkrankheiten, II, Sect. 104. Beer's well-considered judgment condemning the various procedures for cauterizing the follicles of the eyelashes as a cure for the ordinary forms of trichiasis, applies also to such newer methods as have been suggested since his time. Occasionally a case is seen in which the permanent removal of an eyelash or two may yield a perfectly satisfactory result, and those exceptional cases afford a legitimate, but necessarily limited field for the procedures in question. The choice of method is comparatively a matter of little importance.

2. Archives of Ophthalmology and Otology, III, II, 1874.

the mutilation from the loss of the eyelashes is much less serious than in the case of the upper lid, and also because when once the irritation from the misdirected cilia is effectually removed the inconvenience from the remaining deformation of the lid-margin is comparatively unimportant. It is also true that the operations for the cure of entropium which give the best results when performed upon the upper lid are often more or less unsatisfactory when performed upon the lower lid. All methods directed to the cure of trichiasis in the upper eyelid which leave the entropium uncorrected, yield, at the best, but partial and incomplete results; on the other hand, the operative cure of the entropium includes also the cure of the trichiasis, and, if successfully accomplished, leaves the eyelids free from mutilation and in the best possible condition for the future protection of the eye.

Many of the objections which have just been stated apply, with certain qualifications, to the well-known and still popular operation of Arlt,[1] for transplanting the cilia-bearing tissues comprised in the anterior half of the thickness of the split upper eyelid.[2] It consists essentially in the splitting of the lid-margin, to the depth of about three millimetres, along the line of the openings of the Meibomian glands, followed by the removal of a broad, crescent-shaped flap of skin from the front of the eyelid, and the transplantation upward of the cilia-bearing marginal strip by the aid of from three to five sutures. This operation, which has been very extensively adopted, and has been modified in some of its details by its author,[3] and by von Graefe,[4] DeWecker[5] and others, is essentially an operation for trichiasis, and leaves the deformity of the lid-margin and the incurvation of the tarsal tissue uncorrected. Moreover, the long incision in the lid-margin, however widely it may be made to gape through the traction of the skin of the eye-lid, tends grad-

1. Commonly known as the Jaesche-Arlt operation.
2. Arlt, Krankheiten des Auges. 1850.
3. Graefe and Saemisch; Handbuch, II, III, 1874.
4. Archiv für Ophthalmologie X, II, 1864.
5. DeWecker, Chirurgie Oculaire, Paris, 1879.

ually to close again by cicatricial contraction, so that after the lapse of a year the trichiasis is often found to be reproduced, while the eyelid remains more or less conspicuously disfigured through the loss of a considerable portion of its integument. Thus the immediate effect of the operation, which is often brilliant, is apt to become less and less satisfactory with the lapse of time, until in the end the condition of the patient may prove to have been but little if at all ameliorated.

[TO BE CONTINUED.]

A TRANSVERSE SCOOP FOR THE REMOVAL OF FOREIGN BODIES FROM THE CORNEA.

BY A. SCHAPRINGER, M. D., NEW YORK.

The accompanying illustrations represent a transverse scoop, for the removal of foreign bodies from the cornea, as made for me by Mr. F. Eissner, manufacturer of surgical instruments, 18 Third Ave. (Bible House), New York.

One of the illustrations represents the scoop in its actual size, whilst the other gives an enlarged view.

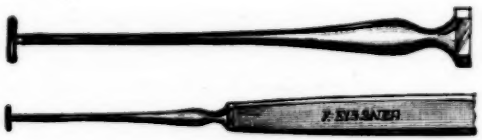

Fig. 8.

This transverse scoop will be found to be more advantageous than the straight instrument in a great many cases, from the fact that it enables the operator to attack the foreign body from two opposite directions without changing the position of the hand. It is worked by a twist of the fingers and scraping of the corneal epithelium is thereby avoided.

THE IRICYSTOME.

BY H. CULBERTSON, M. D., ZANESVILLE, OHIO.

Assistant Surgeon U. S. Army, Retired.

I have been several years in perfecting this instrument and now venture to submit it to the profession. The name "Iricystome," is from iris (*iridos*), cyst (*kyst*), sac, and (*temno*), to cut, meaning an instrument to cut the iris and lens-capsule. The object of this instrument is therefore to cut out a triangular portion of the iris and lens-capsule, or of either, and thus form an artificial pupil in a certain class of eye cases.

The following is the description of the instrument. Fig. 9, No. 4 is a general view. It will be seen that we have employed the principle of Sands' Needle-holder; the blades of which at "b," are flattened and spring apart when at rest, and are limited in their separation by the stop-nut "a." The front blade is solid, the back-blade, a little larger, and fenestrated so as to cut out an equilateral triangle of the included membrane, each side of which is four (4) millimetres in length. But the side of this triangle at the base (transverse) does not cut. Hence an incision is needed, of the iris, or capsule, or both, before using the instrument, that the included portion may be cut clearly. This is illustrated by Fig. 9, No. 2, where the instrument is shown cutting up to the margin only of a thin portion of paper, and a section is seen removed in the same figure. At Fig. 9, No. 3, is shown the preliminary incision, made with a narrow iris knife, through the cornea, iris, and capsule, extending from margin to margin of cornea, at about one-fourth of the diameter of the cornea from the lower or upper corneal margin. This incision is vertical to the plane of the iris—it is the chord of the arc, and the circumference of the cornea, is not divided. It is made at any point (demanded) of the corneal area, above, below or externally. When this incision has been completed, the point of the instrument is introduced through the corneal wound, the blades are closed; and pushed gently and steadily

onward up to the divided membrane or iris, the blades are now opened and pushed inward (one blade behind, the other in front of the capsule, or iris, or both), until the base line of the instrument "c," Fig. 9, No. 4, is at the line of the incision of the iris and capsule, as shown in Fig. 9, No. 3. The blades are then closed, the portion is cut out and the instrument is withdrawn from the eye still

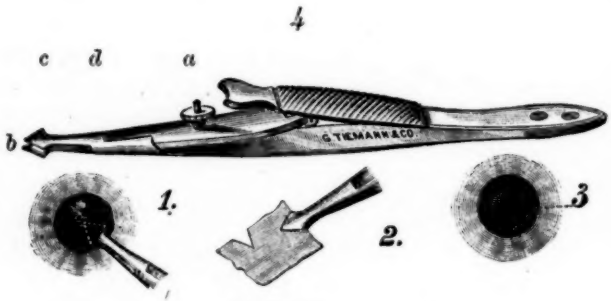

Fig. 9.

closed, and retaining the excised portion. Of course, the cornea is not incised by the instrument. Fig. 9, No. 1 illustrates the position of the instrument when introduced into the eye and about to cut out the included membrane. The blades at the base of their cutting portion are one and a half millimetres thick when closed, and the outside measurement across the base of the blades at "c," Fig. 9, No. 4, of the posterior blade, is six (6) millimetres. The distance from "c" to "d," Fig. 9, No. 4, is 10 millimetres.

I have used this instrument in several cases with success, one of which is reported as follows:

August 9, 1883. H. T. W——, æt. 8 years, was brought to me by his mother, presenting a gun-cap wound of the cornea, iris and lens of the left eye, incurred several months before. The pupil was closed and there was synechia posterior. I hoped that the foreign body would be found in the lens, which was cataractous. The wound being in the inferior region of the cornea, after chloroforming (August 9, 1883), I did an inferior section

of the cornea, an iridectomy, and scooped out the pasty cataract, after incising the capsule, but failed to find the portion of cap. But slight reaction followed this operation, but the opening in the capsule closed and the iris was adherent to it. To obtain an opening in this capsule, after chloroforming on September 6, 1884, I incised the cornea, remains of iris and capsule transversely, at about two lines above the lower corneal margin, entering the narrow knife perpendicularly at the corneal margin, passing the point through the several structures named, and behind the capsule, depressing the handle of the instrument and counter-puncturing at the inner corneal margin, opposite the entrance point. Introducing the points of the blade of my "Iricystome" closed, through the corneal wound, and reaching the margin of the cut in the capsule, I now opened the blades, and introduced them further into the anterior and posterior chambers, one blade behind, the other in front of the capsule, until the line of the cut in the capsule corresponded with the base line ("c," Fig. 9, No. 4.) of the instrument. Then closing the blades, a portion of capsule, one millimetre in size and triangular in form, was cut out and held in the instrument, which was then removed. As there was some blood in the anterior chamber, I washed it out with warm distilled water, using a clean hypodermic syringe with a smooth blunt point. The patient vomited from the secondary effects of the anæsthetic, which caused some bleeding into the anterior chamber. Bandage and dry dressing applied.

September 7.—Some pain in eye, for which he was given Croton chloral, hydrate of chloral and morphine, in appropriate doses, which controlled the pain. Ice compresses were applied, to-day, and for three days. After the third day the case required no treatment save rest in bed and a dark room. The corneal wound healed and the artificial pupil remained open. He could see large objects when I last saw him and the eye was free from tenderness. I shall test his vision when I have an opportunity.

This instrument is made by Messrs. Geo. Tiemann & Co., 67 Chatham St., New York City.

CLINICAL OBSERVATIONS.

BY DR. D. COGGIN, SALEM, MASS.

Glioma of the Retina.—November 16, 1881, Chas. B., æt. 2 years; of New England stock, was brought to me by his mother who three months before had first noticed a "white spot" within his left eye.

The child was unable to walk, had always been weak; head large. The affected eye was of normal shape and size. No external redness. Pupil and T n. A white mass plainly visible just within and below the pupil.

On curing the right eye, the little patient grasped at objects and saw to seize a pin from the table. Atropine was used and an ophthalmoscopic examination was made, though under difficulties, owing to constant movements of the child. Media clear and fundus normal. At the inner side of the eye and mostly below the equator, was an almost pure white flocculent mass, becoming more dense at its rather wide place of attachment, floating in the vitreous and tumbling with the movements of the eye. This motion was readily observed without the mirror. No vessels coursed over the tumor. There had been no symptoms of pain. Right eye normal, apparently. Healthy parentage. (A year later I was told the boy's paternal grandmother died at 38 and there were cancer deposits in her liver.)

January 6, 1882, seven weeks later, photophobia on throwing light into the affected eye. Numerous small, round, white deposits made out in the fundus as the eye moved; their seat not determined. Appearance of tumor unchanged. No redness or tenderness. Of late child has cried much and pressed head between hands as if it ached.

A spasm a week ago. Has sixteen teeth. Mother says child is "backward in every way."

Bowels habitually relaxed. Grasps at objects still.

April 12.—Child never so well. Tumor unaltered. Vitreous turbid and opaque bodies floating in it. No view of fundus. No pain or redness. T n.

July 7.—A week ago struck the sound eye with a stick

and the left one became red and there was a good deal of photophobia, so I was told. Pupil now dilated. Hypopyon not excessive. T + 1 (?). No V. Sclera thinned, showing pigment through it. O. S. diverges. Child too restless to allow an examination of O. D.

August 23.—The effected eye been red one week. Much photophobia. Has cried and kept hand on eye. Pupil widely dilated. Globe has the appearance of being enlarged. Enucleation urgently advised.

August 29.—Some pain last night. Eye removed. Its protrusion through the palpebral aperture difficult, owing to its size.

October 5.—Mother said the child was ill three weeks before. Avoided the light. Now well. I was unable to examine the socket of the enucleated eye.

November 22.—Mother came from her home (four miles out) alone. Child too feeble to be brought. Has been ill a month. Screams with pain to head. Left lids much swollen.

December 13 (28 months since the growth was first seen), child died. Kept under ether by the medical attendant to relieve suffering. The disease had appeared in the orbit and protruded through the lids and frequent hemorrhage had occured. Child conscious till twenty-four hours before death.

The growth proved to be glioma of the retina. It had extended to the optic nerve, in which glioma cells were found.

Suppuration in the Vitreous.—June 2, 1883. I saw in consultation in the country, Mrs. S., age 27 years, born in Massachusetts. No eye trouble till recently, when a tumor (doubtless a chalazion) appeared on the right upper lid. This was dissected out five days before my visit, without ether, and by button-holing the cartilage, so her physician who removed the tumor told me. Forty-eight hours after the operation the eye became red and painful.

The pain was so acute that anodynes were called for. Patient of full habit and perhaps hysterical, as shown by retention of urine on a day of rest. Acne of face. Bowels constipated. Weak from effect of recent enema. Eyes closed. Wound of lid not united. Considerable photophobia. Deep conjunctival

congestion with chemosis. Some swelling of lower lid. Pupil fully dilated by the atropia that had been used. Cornea unaffected. No tenderness on applying pressure. Tension normal. Counts fingers at 0.30. Sight has always been excellent. No view of fundus. Immediately behind the lens a dark, wooly mass was seen, its outline being indistinct against the red reflex from the fundus owing to the turbidity of the vitreous. Because of the dread of light, and the want of a good light patient being in bed, the view was not satisfactory.

Leeches were ordered and ice. The latter was applied constantly for thirty-six hours. I heard from the patient daily by telephone and her medical attendant said she was free from pain. After a few days I ceased being informed about the case. Two months later Mrs. S. entered the Salem Hospital. She stated that some days after I visited her, pus came out of the eye through an opening over the "sight" but that she had not suffered as she had at first. The eye was nearly free from redness. There was a staphyloma of the cornea below, nearly transparent but with a vertical cicatrix at the centre about two mm. in length. Its size and form (the staphyloma) led me to believe the lens in the capsule must be within the anterior chamber, but this idea was abandoned on holding a + glass before the eye as it lessened the sight, which amounted to the counting of fingers at 0.15.

The pupil was normal, no adhesion of the iris. A granular mass extended from the button-hole made in the cartilage, when the tumor was removed, to the ciliary margin, which was snipped off. On the 29th an iridectomy was done upward. On being discharged twelve days later vision had doubled. Six months after with a—D4. glass it was $\frac{6}{LX}$ and the patient could slowly read Sn. at 0.20.

No increase of the corneal staphyloma, iris acts normal. Fundus readily seen. No trace discovered of the remains of trouble in the vitreous save a dark body, 1 mm or so in diameter, near the lower border of the lens.

The loss of substance from the lid at time of the first operation must have been considerable as eversion of the upper lid was well nigh impossible and the skin was retracted by the cicatrix.

A Case of Intra-Ocular Tumor Simulating Glaucoma. Margaret Murphy, age 35, born in Ireland, a housewife, sought treatment at the Salem Hospital on the 11th of August, 1880, because of severe pain in her left eye (worse at night) for five days. The sight had been failing for four years. Anterior ciliary vessels congested, anterior chamber shallow, pupil widely dilated, greenish reflex, tension greatly increased.

No perception of light. No view of fundus with the opthalmoscope, nor was any tumor found. Eserine exerted no influence on the iris but, as the woman was averse to an operation, some of the solution was given her and she went home. Ten days later she returned complaining of intense pain in her eye and brow and consented to have an iridectomy performed, which was done the iris being much attenuated.

Immediate relief followed the operation and for two days there was no pain, so the patient stated on returning to the Hospital August 31. Was unable to sleep because of extreme pain in her eye and could not retain food. Enuclation done at once. Last June the woman came to the Hospital and stated she had suffered no further trouble. Sight in the remaining eye = $\frac{6}{6}$.

The tumor was a small fusiform-cell sarcoma.

A CASE OF PERMANENT ZONULAR SCOTOMA OF TRAUMATIC ORIGIN—VERY SMALL CIRCLE OF CENTRAL FIELD WITH VISION NORMAL.

BY O. F. WADSWORTH, M. D., BOSTON.

Mr. C., aged 26, a civil engineer by profession, on Aug. 21, 1871, drove a span of horses attached to a wagon weighing about a ton, and loaded with 12 tons of lumber into a plowed field. He was seated on the foot board of the wagon, his feet resting on the pole. One of the four wheels sank into a furrow, the

wagon lurched, his feet slipped from the pole, and he fell to the ground. As he fell he struck the flank of the rear horse. The horse turned sharply to the right, and the left fore wheel passed over his body. The sudden turn carried the off horse upon a pile of fence posts, brought the off fore wheel against the posts and stopped the team. The left hind wheel rested on the inner side of his left knee, pressing it into the soft ground and requiring the wagon to be backed to release him. He is not certain just how or where the fore wheel crossed his body, but, judging from the lameness afterward, believes it struck the lower part of his chest from behind and passed over it while he lay on his left side.

The next day there was much general lameness and a bruised feeling under the chin, as though he had received a blow there. He also observed that he could not see in the center of the field of the right eye, "as there was a mist before it." There was, however, nothing to be seen externally about the eye, and no sensation of bruising on or about it. During this day and the next he used his eyes considerably, writing till 11 o'clock on the evening of the 23rd, and noticed no change in the condition of the right eye.

On Aug. 24, the third day after the injury, he applied to me. There was still much general lameness and stiffness. The eyes were externally normal. L. E. V=$\frac{14}{X}$, fundus normal, R. E. V.<$\frac{14}{cc}$, no contraction of field, no definite boundary of scotoma made out. The disc a little indistinct, slightly reddened; the retina in all directions about the disc somewhat opaque, but rather reddened than pale, except in the region of the macula, where it was whitish and the vessels stood out more sharply than normal against the light background. Scattered about were a number of rounded hemorrhages, the largest half the diameter of the disc in size, all quite thin and some already partly or wholly decolorized; in the macula numerous minute hemorrhages of irregular shape. The arteries of normal size and course; the veins slightly enlarged; well marked (normal) pulsation in the main vein at the central depression. Periphery of normal appearance. Ordered atropia, blue glasses, rest.

August 26. Appearance of retina slightly improved. No boundary of scotoma made out. V$\frac{14}{LXX}$, but sees only one letter

at a time and as if looking through a small opening in a diaphragm.

Aug. 28. Retina somewhat clearer; hemorrhages absorbing; veins still enlarged, V $\frac{14}{L}$, one letter at a time as before.

Sept. 5. Retina clearer, hemorrhages mostly absorbed; V$\frac{14}{XL}$—$\frac{14}{XXX}$.

Sept. 25. Except for traces of one or two hemorrhages the fundus perfectly normal in appearance; V. R. with + 60=$\frac{14}{X}$—L.=$\frac{14}{X}$.

Oct. 28. Nothing abnormal to be seen. He makes out most of the letters of X at 14′ with R., but slowly; even much larger letters are read only slowly; they are seen as through a small opening in a diaphragm. The periphery of the field and peripheric vision normal, and no defined boundary of the defect which surrounds the center of field made out. A. normal. No lameness nor other effect of accident perceived.

April 9, 1877, V. R. or L., $\frac{14}{X}$. Still sees with R. "as through a small opening in ground glass." The scotoma appears as a zone widest toward the right, both the central and the peripheral parts of the field seeming as clear as of the left eye. At a distance of 13′ the central clear field is only 2″ in diameter. At the same distance the outer limits of the scotoma from the fixation point are upward 7″; up and out 10″; out 10″; out and down 8″; down 6½″; down and in 4½″; in 5″; in and up 6″. This boundary is pretty sharply defined to the outer sides and downward, while above and especially to the inner side it shades off. Careful examination of the fundus reveals nothing abnormal.

Dec. 21, 1878. The past year Mr. C. has been employed in Texas as constructing engineer of a railroad. He is conscious of no change in the condition of the right eye. The scotoma makes it necessary to use the left eye with theodolite, etc.; V. R. $\frac{14}{X}$, At 15′ he sees only three letters of 15 at once, and the outer edges of the extreme letters are even a little blurred. At 13′ the outer border of the scotoma, measured on the blackboard by the disappearance of a piece of chalk, is up 8″; up and out 9″: out 9½″; out and down 8″; down 7″; down and in 7″; in 6½″; in and up 7″. In all directions around the scotoma, however, an object is seen more distinctly a few inches from the border as

above given than in its immediate neighborhood. The outer boundary of the field and peripheral V normal. The fundus quite normal everywhere.

I have had no farther opportunity to examine the eye, but have heard from time to time that its condition is unhanged.

JEQUIRITY AND SOME OF ITS ILL EFFECTS.

BY CHARLES J. LUNDY, A. M., M. D.

PROFESSOR OF DISEASES OF THE EYE, EAR AND THROAT IN THE MICHIGAN COLLEGE OF MEDICINE.

Although jequirity has been before the profession for nearly two years, and although it has been extensively used in ophthalmic practice by a large number of observers, we find that various opinions are held regarding it. Ophthalmic surgeons by no means agree in regard to its therapeutic value, while many regard it as a very dangerous remedy, potent for evil if not for good.

Used in the same manner, of the same strength, in the same class of cases, and under the same general circumstances, if the article be good, the same general results should be had.

Nevertheless, we find, according to their own statements, that some physicians have only the most brilliant results, for they make no mention of failures or of ill effects, while others (probably the more conscientious) frequently meet with disaster.

It is only by an interchange of honest opinion, as well as by experiment, that we can gain a correct knowledge regarding the value of jequirity or its lack of value. In our statements regarding it, we should be as willing to relate the evil results following its use as to give glowing accounts of our successes.

It is not my intention at the present time to give my experience in general with jequirity, and my remarks will be mainly confined to a report of a few of the many cases in which I have used the remedy.

Case I.—Miss B., æt. 16, of Leamington, Ont., came to consult me on July 18, 1883. She had had "sore eyes" for more than two years. On examination it was found that she had granular ophthalmia (trachoma) with atrophic changes in the conjunctiva; and there were also small superficial ulcers of both cornea and slight pannus in the left eye. There was a small quantity of muco-purulent discharge. Astringents were applied daily, with atropine and an ointment of yellow oxide of mercury. Improvement was rapid, and in a few weeks the right eye was well, but there still remained a very slight vascularity of the cornea and some small granulations in the left eye. The superficial ulcers had entirely healed, and no opacities remained. Vision in the right eye = $\frac{20}{XX}$ and in the left = $\frac{20}{XXX}$. An infusion of jequirity, about one per cent., was used in the left eye. It was brushed over the everted lids twice daily and the eyes were bathed with the infusion several times a day. In twenty-four hours reaction slight. Some serous discharge.

Second Day—Discharge more profuse with admixture of some muco-pus; lids swollen, red and tender; conjunctiva covered here and there with small white deposits.

Third Day—All the symptoms aggravated. Conjunctiva covered with membranous deposit, which is easily removed; lids more swollen and more tender to touch; discharge quite profuse.

Fourth Day—Remedy discontinued. Patient complains of feeling ill. Pain in eyes, temple and forehead prevented sleep last night. Pulse rapid, skin hot and dry; temperature not taken. Lids enormously swollen and extremely tender to touch; swelling extends down the side of the face, lymphatic glands of neck on that side also swollen. On account of the great swelling and tenderness of the lids, no satisfactory view of the cornea could be obtained, but ocular conjunctiva was much swollen and chemosed. The discharge of sero-purulent matter very profuse. Patient was much depressed both on account of suffering and fear that the eye would become blind, and in this fear I participated. Ordered cold compresses, atropia and boracic acid lotions and anodynes to allay pain.

Fifth Day—Condition slightly improved, but no material change.

Sixth Day—Croupous deposit disappearing from conjunctiva, lids less swollen, discharge less free. Cornea now examined and found to be very hazy, and in places (especially upper half) much infiltrated; corneal epithelium extensively macerated and softened, and several small corneal ulcers present. From this time improvement went on rapidly, and in two to three weeks all inflammatory symptoms had subsided. The granulations were gone, the corneal ulcers had healed and the vascularity of the cornea had disappeared, but there still remained opacity of the cornea. Fortunately this opacity was mainly in the upper portion of the cornea and some useful vision remained. Vision in R. E., as before, $= \frac{20}{XX}$; in L. E., $= \frac{20}{C}$. She was ordered an ointment of yellow oxide of mercury to be used daily and was dismissed. Through her brother I have since learned that vision has improved.

According to *De Wecker* this was a case in which the use of jequirity was specially indicated. There was a dry conjunctiva, no discharge, and vascularity (*very slight*) of the cornea. But the result was bad, and came near being disastrous.

Case II.—John C., æt. 41, of Kingsville, Ont., came to consult me September 10, 1883. He had had granular ophthalmia for about one year. The granulations were large and prominent and the conjunctiva slightly atrophied. There was but little discharge. Slight vascularity in upper portion of both corneae. Vision $= \frac{20}{XXX}$—in each eye. Applications of a freshly prepared infusion of jequirity, about one per cent., were made three times daily for three days.

In twenty-four hours, lids slightly swollen, and some discharge of watery serum. In forty-eight hours lids more swollen and tender to touch; free discharge of serum with muco-pus; some white deposit on conjunctiva of both lids; ocular conjunctiva also swollen. In seventy-two hours lids greatly swollen, red and tender, swelling extends down upon the cheek; pain in eyes, brows and temple prevented sleep; conjunctiva covered with croupous membrane; ocular conjunctiva chemosed; cornea very hazy, and corneal epithelium macerated and softened, and several corneal ulcers; discharge profuse. Instilled atropine and ordered boracic acid lotions and cold compresses, also anodyne

to relieve pain. Next day, patient feels a little easier; eye looks much the same, except that the membrane is disappearing at some points.

From this time on patient improved daily, and in two weeks "jequiritic inflammation" had subsided. Conditions two weeks after use of jequirity: Vascularity of cornea a little greater than before the use of the remedy; and granulations about the same, slight opacities in cornea and vision $\frac{20}{L}$. Astringents, either argentum nitrate or the cupric sulphate, were now applied daily and the case progressed favorably, and in a few weeks the patient was sent home in good condition, but not perfectly cured of his granulations, which, however, have given him no trouble since.

On the same day that Mr. C. came to consult me, his friend and neighbor, Mr. McD. also came. He, too, had granular lids. The conditions were similar to those present in Mr. C.'s eyes. Mc D. was treated with astringents and made a more rapid, and also a better, recovery than did Mr. C., and left for his home with vision fully $\frac{20}{XX}$, without having been subject to great torture or having run the risk of loosing his sight by jequirity.

Case III.—Herman R., æt. 59, consulted me October 22, 1883. "Had sore eyes with some discharge for more than two years." The lids were puffy and the conjunctiva greatly thickened and infiltrated with masses of granulations. In places, this gave the appearance of compressed "frog-spawn," The conjunctiva of lower lid and the fornix were especially crowded with this deposit. There was dense pannus in both eyes. Vision scarcely more than perception of light. A freshly prepared infusion of jequirity was brushed over the lids twice a day, and some of the infusion was dropped into the eye two or three times a day for two days. In forty-eight hours the lids were much swollen, red and tender; the conjunctiva was partially covered with a membranous deposit; free discharge of sero-mucus with some pus.

Next day, lids more swollen and œdematous, very painful and tender; pain extends to brows and temple; conjunctiva, so far as it could be inspected, covered with membranous deposit, which,

however, can be easily removed; discharge of sero-purulent matter quite profuse. Ordered cold compresses and instilled atropia and boracic acid. Swelling and inflammation gradually subsided and in about two weeks the effect of the jequiritic ophthalmia had disappeared.

Results: Pannus not quite so dense asbefore its use; the granular mass much diminished in places, but conjunctiva much scarred. Large bands of cicatricial tissue were left in the conjunctiva. This condition was especially noticeable in the lower lids, where a broad ridge-like, dense cicatrix reached nearly across the whole length of each lower lid. These still remain. It may be stated here, that jequirity was used at three different periods thereafter, at intervals of acouple of months, but very slight reaction followed its employment. Much improvement took place in the pannus, but on the whole the improvement from the use of jequirity was slight when compared with that due to the use of other remedies. The conjunctiva is now quite smooth, except for the ridge-like scars, and the cornea is no longer vascular, and vision $=\frac{20}{LXX}$. Had the ordinary modes of treatment been faithfully carried out in this case, I am confident the result would have been fully as good, so far as the pannus and granulations are concerned, and there would not remain, as now, permanent cicatrices of the conjunctiva, which must ever prove a source of irritation to the eye and discomfort to the patient.

Case IV.—Thos. M., æt. 39, of Flint, Michigan, came to consult me April 8, 1884. His eyes had been inflamed for about one year and a half. This proved to be a case of mixed granulations, rather than one of pure trachoma as in the preceding one. The conjunctiva was swollen and succulent, and there was some discharge of muco-pus. The corneæ were clear, but in the left eye there was traumatic cataract, and the right eye was slightly myopic. To the everted lids astringents were daily applied for some time. At first the improvement was rapid, but after a time the astringents failed to produce satisfactory results. However, the granulations were greatly reduced by their use and the discharge ceased. Jequirity was now employed. A three per cent. infusion was made by macerating the decorticated

beans pulverized for three hours in cold water. This infusion was brushed *only once* upon the conjunctiva of the everted lids. In twenty-four hours the lids were much swollen and œdematous, the conjunctiva was much swollen and somewhat chemosed, and was covered with a thin film of lymph. Next day the discharge of sero-purulent matter was very profuse, the lids were greatly swollen, red and painful and the conjunctiva was covered with a thin membranous deposit. Third day conditions somewhat aggravated. The chemosis and swelling of conjunctiva very marked; the cornea very hazy, and, in places, much infiltrated; the corneal epithelium was absent in at least six places in each cornea, and in the left cornea there was quite a deep ulcer. The discharge still profuse and the pain in and about the eyes very distressing. On the fourth day the membranous deposit had mostly disappeared and the general symptoms were moderating. From this time on the case improved daily, the corneæ were still a little cloudy, and the granulations were not at all diminished or in any other way helped by the treatment. However, the case now responded more readily to the use of astringents and in a few weeks he was discharged cured with the exception of a slight haziness of the corneæ.

What, let me ask, would have been the result in this case, had several applications of jequirity been made? I think all fair-minded men will say, the eyes would, in all probability, have been lost. And yet we had here a dry conjunctiva and no discharge.

Case V.—Mrs. Johnson of Southfield, Michigan, consulted me August 19. More than two years ago she had been treated and cured of granular lids in one eye by Prof. Geo. E. Frothingham, and she now came to consult me regarding the other eye, There is tolerably dense pannus, and there are large granulations with slight atrophic changes in conjunctiva, and slight muco-purulent discharge. Disease of one year's standing. She was treated with astringents and sulphate of atropia, under which the granulations rapidly diminished and the pannus also improved. In an evil hour a single application of jequirity infusion, two per cent., was made to the everted lids in the hope that the pannus might more rapidly disappear. The reaction

was quite marked, and the patient's suffering was very great, and, naturally enough, she complained bitterly of the severe treatment. The jequiritic inflammation reached its height in sixty hours after the application, at which time the lids were greatly swollen, the upper lid hanging down over the lower one; the conjunctiva was covered with a croupous membrane, greatly swollen and chemosed; the cornea was cloudy and denuded of its epithelium at several points. When the patient left for her home, she was, in every respect, infinitely worse than when she first applied for treatment. She has not since returned, and I have learned nothing regarding her condition.

These are some of the untoward results which I have had from the use of jequirity, although I have usually been cautious in its employment. In case I the remedy was used for four days, but experience taught me it was too long. In case II it was used for three days and not so frequently applied, and yet the resulting inflammation was very severe and the results bad. In case III it was used for only two days and yet the result was great cicatrices of the conjunctiva. In case IV a single application was made, and with the intention of repeating it next day, did not the severe reaction deter me from its further use in that case. In case V a weaker preparation, two per cent., of the infusion was employed only once, but the result was very unsatisfactory to both my patient and myself. She has not returned for further treatment, and I would not do so either had I been in her stead. It is to be hoped no permanent injury has been done her eye by the use of this dangerous drug.

THE TREATMENT OF WOUNDS OF THE SCLEROTIC BY SUTURES THROUGH THE CONJUNCTIVA.

BY THOS. A. JOYE, M. D., BROOKLYN, N. Y.

CASE I.—Mary R., æt. 13, presented herself at Dr. Prout's clinic at the Brooklyn Eye and Ear Hospital, December 6, 1882, and stated that while on her way to school the previous

day a piece of crockery thrown from a window struck her in the right eye. Examination showed an incised wound of the sclera and cornea downward and outward, about one-half an inch in length, involving the superior segment of the cornea. Ball soft and reduced in size. Vitreous presented through the scleral wound. Iris prolapsed. Anterior chamber filled with blood, V = perception of light. *Schoeler's* operation was decided upon, more with a view of preserving the globe and retaining the size and shape of the orbit, than with the hope of obtaining a useful eye. It was decided to forego the risk of sympathetic trouble by practicing conservative surgery. The occular conjunctiva was dissected from the underlying tissue about the seat of wound for about 6 m. m., and a number of double sutures (silk) were passed through the *free border* of the *under flap*, which in turn were passed through the *base* of the *upper flap*. Then the *free border* of the *upper flap* was stitched to the *base* of the *under flap*, thus, bringing the scleral edges in direct opposition and covering the wound with a double layer of the conjunctiva. The prolapsed iris which had engaged in the corneal wound was cut off. Atropine solution instilled and bandage applied with slight pressure.

December 7. Eye looks well. No pain. Slight chemosis. Atropine and bandage continued.

December 10. Chemosis increasing. No pain. One of the sutures came away, while bathing the eye. Treatment the same.

December 11. Chemois less. All but one of the sutures were removed. Blood in the anterior chamber is rapidly being absorbed. Mask substituted for bandage. Atropine continued.

December 13. Hyphaema entirely disappeared. Conjunctiva slightly congested. Wound healed V = fingers at 2 feet.

In this case the lens and ciliary body must have been injured, though no record was made at the time. I have recently heard through a relative of the patient that she has had no trouble in either eye, and that her vision in the injured eye has improved very much.

Case II.—Thomas E., æt. 42, called at the Brooklyn Eye and Ear Hospital during Dr. Prout's clinic, March 4, 1884, and

stated that some hours before he had been struck in the right eye with a pair of scissors. On examination it was found that the blade of the scissors had passed through the upper lid, cutting through the sclerotic at its upper and inner quadrant, and penetrating the ball well back of the ciliary region. Ball soft and much reduced in size. A quantity of vitreous had escaped, and some still presented through the wound. V = perception of light. In consequence of the hemorrhage in the vitreous, the fundus could not be seen. The presenting vitreous was cut off with scissors. *Schoeler's* operation performed, and a bandage applied with slight pressure.

March 5. Slept well during the night. No pain. Conjunctiva is congested and swollen. Bandage continued with warm fomentations.

March 6. Swelling less marked. Some chemosis. No pain. Treatment continued.

March 8. Swelling and chemosis disappearing. Sutures removed. Conjunctival flaps have firmly united. V= objects.

March 10. Eye painful, chemosis continues, conjunctival flaps slightly raised. Heurteloup applied and Pill. Cathart. Comp. No. 3 ordered.

March 14. Inflammatory symptoms have entirely subsided. Wound well healed. The opacity in the vitreous prevents any reflex from fundus. V= objects.

May 1. Patient states to-day, that he has noticed a gradual improvement of vision since the last visit. The eye looks well and has caused no discomfort. Ophthalmoscopic examination shows a clearing up of the vitreous. The opacities are arranged in horizontal layers, through the interstices of which the fundus can be seen $V=\frac{1}{L}^{0}$.

The advantage of *Schœler's* operation over that of sewing directly through the sclerotic as is usually advised in the text-books, will, I think at once be apparent. In gaping wounds of the sclera there is always an escape of vitreous and the amount lost is a very important factor in the prognosis. The force necessary to penetrate the sclerotic with a needle is considerable, and it can hardly be done without an additional loss of vitreous, which must certainly lessen the chances of a favorable recovery.

Again, the damage done the retina and choroid by the effort to pass the needle through the sclera, might reasonably be held to account in part for the retino-choroidal lesions upon such injuries. *Schoeler* reports ten cases in which he has performed this operation, and in no instance has retinitis or sympathetic trouble been noted. In the October number of the *Ophthalmic Review*, *Snell* reports four cases of wounds of the sclera which were successfully treated by sutures through the conjunctiva: "A needle threaded with fine gut is passed well under the divided conjunctiva on either side of the scleral wound and then tied tightly." This method seems more simple than *Schoeler's* and should be preferred, if the results are equal.

ATROPHY OF BOTH OPTIC NERVES AS A SEQUEL OF WHOOPING COUGH.

BY PETER A. CALLAN, M. D.
Surgeon New York Eye and Ear Infirmary.

Kate M.——, æt. 11. Patient undersized and not strong for her years. When six years old, had a very severe attack of whooping cough, lasting three months. Patient was very much reduced by the severe whoops and her mother dispaired of her recovery, she was at times so prostrated. At the expiration of the third month of the disease the whoops suddenly ceased, but a very dangerous complication arose, viz.: brain trouble. Patient on attempting to walk would become dizzy and stagger—complaining of severe headache and pains in the joints and all over the limbs. Mind wandered at times—was obliged to remain in bed for three weeks and at the end of that time her headache and dizziness left her, but she could only see very imperfectly. The mother, who is not a very intelligent person, noticed that the child in walking would run against tables and chairs, showing plainly that she did not see well. The patient

was examined by a very competent oculist, who told the mother that the eye nerves were swollen—optic nerves. For some months there was improvement in the girl's sight, but this failed her again. At the present time there is well marked white atrophy of both discs—with Vision O. D. = Movement of hand held before the face—O. S. counts fingers at eight feet.

Here we have a case in which a long continued attack of whooping cough brought about a passive congestion of the brain with œdema—this led to choked discs and subsequently to atrophy. As to the sudden cessation of the whoops, may that not be explained by the fact that the bronchial irritation was not enough to arouse the sensitive fibres of the *vagus* when the œdema took place.

CORRESPONDENCE.

COLDWATER, MICH., July 14, 1884.

Editor American Journal of Ophthalmology.—In the July number of your journal, Dr. C. J. Kipp records a case of spontaneous expulsion of a foreign body from the eye, and says that instances of this kind must be very rare, as he finds the record of but one similar case, and in a note by yourself, another case is given. Had I supposed that such cases were so rare, I should have reported before this, one case which came under my own observation in March last.

The case briefly was this. In May 1860 Wm. Tompkins, a farmer, took a span of horses to the field, their heads being fastened near together with a strap with a three quarter of an inch buckle on it. The team in some way broke this strap and as it flew back, it struck him on the eye and ruptured it.

After being confined to his room about six months from the date of the injury to the eye, he commenced working on his farm again, and continued to do so since. In March last he came to consult me, stating that something in the eye was chafing and irritating the lids. I examined it and found a small

black point, hard and a little rough, projecting from the eye. I grasped it with a pair of forceps and drew from the eye a piece of iron buckle three fourths of an inch long and about one sixteenth of an inch in diameter.

This foreign body had been in the eye twenty three years and ten months, and at no time had the other eye shown any signs of sympathetic inflammation. S. H. CLIZBE.

The following statement was received from Drs. N. S. Davis, Chicago, and E. A. Jacobi, New York.

STATEMENT RELATING TO THE INTERNATIONAL COLLECTIVE INVESTIGATION OF DISEASE PROPOSED AT THE INTERNATIONAL MEDICAL CONGRESS AT COPENHAGEN.—The general meeting of the International Medical Congress, held at Copenhagen, on August 14, 1884, upon propositions made by Sir James Paget, Professor Ewald of Berlin, Professor Bouchard of Paris, and Dr. Billings of Washington, passed the following resolutions:

1. That an International Committee be formed for the Collective Investigation of Disease, in connection with the work of the International Medical Congress.

2. That the following gentlemen do represent their respective countries thereon:

As Representatives of Denmark.—Professors Trier, and C. Lange, of Copenhagen.

As Representative of Scandinavia.—Dr. E. Bull, of Christiania.

As Representatives of Russia.—Dr. Rauchfuss, of St. Petersburg.

As Representatives of Germany.—Professors Ewald and Bernhardt, of Berlin.

As Representatives of Austria-Hungary.—Professor Schnitzler, of Vienna; and Professor Pribram, of Prague. To whom was added by co-optation.—Professor Korányi, of Buda-Pest.

As Representative of Switzerland.—Professor Despine, of Geneva.

As Representatives of France.—Professor Bouchard, of Paris and Dr. Lépine, of Lyons.

As Representatives of Great Britain and Ireland.—Sir William

W. Gull, Bart.; Professor Humphry, of Cambridge; Dr. Mahomed, of London.

As Representative of British India.–Sir Joseph Fayrer, K. C. S. I.

As Representatives of the United States.—Professor Jacobi, of New York and Prof. N. S. Davis, of Chicago.

As Representative of South America.—Dr. Gutiérrez-Ponce, of Paris.

As Secretary-General.—Dr. Isambard Owen, of London.

Representatives of other Countries to be hereafter appointed.

In accordance with the following resolution of the first meeting of the above committee held at Copenhagen on the following day:

"That the Secretary be instructed to prepare a statement as to the objects of the Committee, for translation and publication in the journals of the various countries represented;"

I beg leave to submit the following statement to the members of the Medical profession of the United States.

ISAMBARD OWEN,
Secretary-General.

5, Hertford Street, Mayfair, London.

The main objects which the Committee seeks to attain through the Collective Investigation of Disease are to widen the basis of Medical Science, to gather and store the mass of information that at present goes to waste,to verify or correct existing opinions,to discover laws where now only irregularity is perceived, to amplify our knowledge of rare affections, and to ascertain such points as the geographical distribution of diseases and their modifications in different districts. It will be its endeavor to place clearly before the whole profession the limits and defects of existing knowledge, as well as to stimulate observation, and give it a definite direction. It will be a not unimportant incidental result of its work, should it tend, as is hoped, to the better training of the members of the profession in habits of scientific and practical observation, and in systematic methods of recording the facts which they observe.

The age in which we live has seen enormous advances in the sciences on which the fabric of medicine rests, such as chemistry and other branches of physics, physiology, and pathology. Each of these has taken giant strides. It must be admitted, however, that purely medical knowledge has scarcely made proportionate progress. It cannot be expected that it should do so, as it deals with the aberrations of the most complex of organisms, is of all sciences the most difficult, and demands the greatest patience and the largest accumulation of data.

Hitherto the advancement of medical science has been brought about mainly by individual effort. The value of such work in the past we in no way underrate, nor do we desire to lessen the amount of it in the future; but in medical science there is much that defies interpretation from individual experience, and many problems so far-reaching in an ever-widening field, with elements so manifold, that no single man, however gifted and long-lived, can hope to bring the whole within his range. The need, therefore, in medicine, of that combination and concentration of individual work which is adopted in many other branches of science and in commerce, and to which increasing facilities of intercommunication have given so much impulse and so much strength, cannot be questioned. Indeed, it may be said that, resting on individual research alone, medical knowledge can be advanced but slowly and with difficulty. Future progress to any great extent must be the work, not of units acting disconnectedly, but of the collected force of many acting as one. For many to act as one, organization is needed; that organization it is the purpose of our Committee to supply.

Disease is many-sided; and we wish to include in our organization those who see it from every side. All, therefore,whether hospital physicians,family and school attendants,specialists, medical officers of the army and navy,and of workhouses and asylums,will be asked to contribute their quota of observation to the common fund.

In England and Germany organizations for this purpose already exist, through which good work has been accomplished; and a volume entitled the "Collective Investigation Record," containing tabulated returns, with reports upon them and other matter, is published annually by the British Medical Association. France and Austria are alive to the new method. In Scandinavia and in the United States the foundations of asso-

ciations have been laid. Denmark, Russia,and Switzerland are setting their hands to the task. To unite these several associations by an international organization for the study of various problems, and to induce the formation of similar combinations elsewhere, is felt be a work peculiarly befitting an International Congress. Our Committee is enjoined by the Congress at Copenhagen to endeavor to carry out this work, and, in compliance with that injunction, it invites the co-operatiou of all who have at heart the promotion of medical science and practice.

The following is the proposed method. A subject having been selected, a person or persons of acknowledged authority will be asked to write a memorandum, in the form of a short essay upon it. The memorandum will succinctly give the present state of our knowledge. It will also point out the directions in which further research may best be made;and, with this view, will suggest a few simple and definite questions upon the subject selected. The questions will relate to matters of fact, to be elicited by observation of cases rather than to matters of opinion.

The contemplated organization will, it is hoped, in time enable the Committee to ask and collect answers to these questions from the profession at large wherever scientific medicine is studied or practised. It will be a further duty to examine,arrange, tabulate, and deduce results from of the mass observations thus collected, due credit being given to each contributor for the information he has furnished; and reports on the results of the several investigations will be laid before the International Congress at its next meeting at Washington.